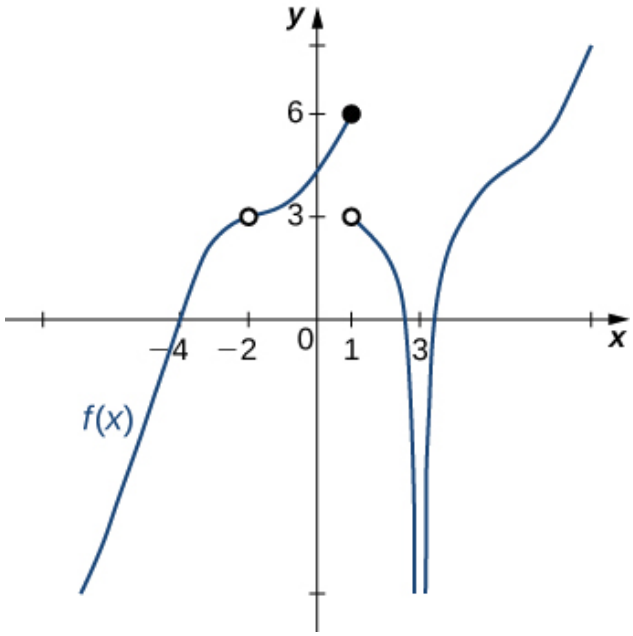
1. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x) = 0$.



A. -4

B. 0

C. 3

D. Multiple a make the statement true.

E. No a make the statement true.

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2. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 2^-} \frac{-7}{(x-2)^4} + 4$$

A. $f(2)$

B. ∞

C. $-\infty$

D. The limit does not exist

E. None of the above

3. Evaluate the limit below, if possible.

$$\lim_{x \to 9} \frac{\sqrt{7x - 27} - 6}{6x - 54}$$

A. 0.441

B. 0.014

C. ∞

D. 0.083

E. None of the above

4. Based on the information below, which of the following statements is always true?

As x approaches 3, $f(x)$ approaches ∞.

A. $f(x)$ is close to or exactly 3 when x is large enough.

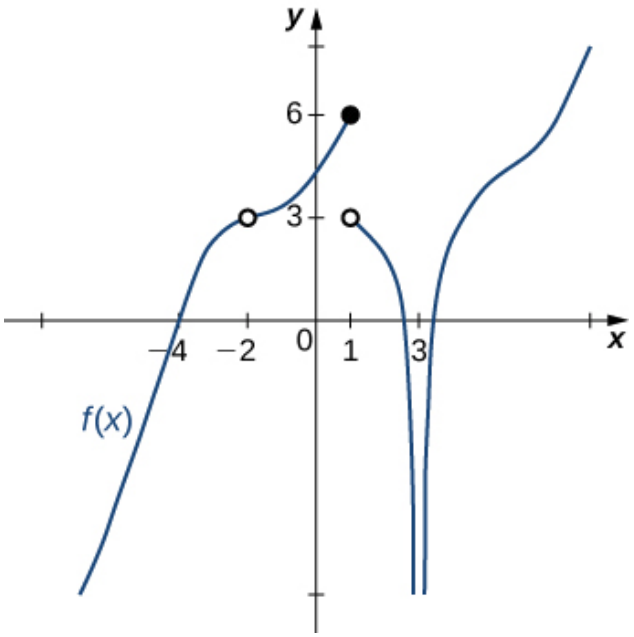
B. x is undefined when $f(x)$ is close to or exactly ∞.

C. $f(x)$ is close to or exactly ∞ when x is large enough.

D. $f(x)$ is undefined when x is close to or exactly 3.

E. None of the above are always true.

5. For the graph below, evaluate the limit: $\lim_{x \to -2} f(x)$.



A. $-\infty$

B. -2

C. 3

D. The limit does not exist

E. None of the above

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6. Evaluate the limit below, if possible.

$$\lim_{x \to 7} \frac{\sqrt{5x - 10} - 5}{3x - 21}$$

A. 0.100

B. 0.745

C. ∞

D. 0.167

E. None of the above

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7. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 3^+} \frac{-1}{(x-3)^4} + 8$$

A. $-\infty$

B. ∞

C. $f(3)$

D. The limit does not exist

E. None of the above

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8. To estimate the one-sided limit of the function below as x approaches 8 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{8}{x} - 1}{x - 8}$$

A. $\{8.0000, 8.1000, 8.0100, 8.0010\}$

B. $\{7.9000, 7.9900, 8.0100, 8.1000\}$

C. $\{8.0000, 7.9000, 7.9900, 7.9990\}$

D. $\{8.1000, 8.0100, 8.0010, 8.0001\}$

E. $\{7.9000, 7.9900, 7.9990, 7.9999\}$

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9. To estimate the one-sided limit of the function below as x approaches 9 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{9}{x} - 1}{x - 9}$$

A. $\{9.0000, 8.9000, 8.9900, 8.9990\}$

B. $\{8.9000, 8.9900, 8.9990, 8.9999\}$

C. $\{9.1000, 9.0100, 9.0010, 9.0001\}$

D. $\{8.9000, 8.9900, 9.0100, 9.1000\}$

E. $\{9.0000, 9.1000, 9.0100, 9.0010\}$

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10. Based on the information below, which of the following statements is always true?

As x approaches 8, $f(x)$ approaches 12.177.

A. $f(8)$ is close to or exactly 12

B. $f(8) = 12$

C. $f(12)$ is close to or exactly 8

D. $f(12) = 8$

E. None of the above are always true.
